# RESEARCH PLAN PROPOSAL

## Technological Change in Education Sector: An Empirical Analysis on Selected School of Rajasthan

For registration to the degree of
Doctor of Philosophy

**IN THE FACULTY OF COMMERCE & MANAGEMENT**

## IIS(Deemed to be University), JAIPUR

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ICG/2018/

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**2019-2020**

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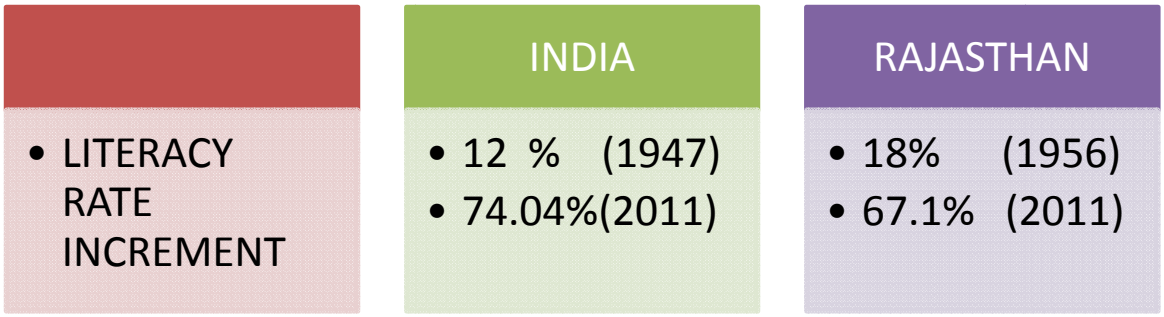
# Introduction

## Technological change

Technological change deals with invention of technologies. Technology evolution is another name of technological change. Technology advancement plays an important role in educational development.

## Education Sector

Development of Human Resource is an important part of any countries progress. As entire country development depends on qualitative human resource of the country. For this country education system plays an important as well as crucial role. As proper education enhance human qualities which helps in maintaining the socio economic condition of any country. After Independence India has always tried to improve its literacy rate. All five year budgets have focused on improving education system in India. Due to this literacy rate has grown to 74.04% (2011 census) from 12% at the end of British rule in 1947. Rajasthan in 1956 was granted statehood at that time Rajasthan had the least literacy rate in India i.e 18%. But now its literacy rate has increased to 67.1%(2011), which is decent increase as compare to 1956 literacy rate. Rajasthan is still lacking behind in literacy from other state like Kerala with highest literacy rate 93.91%.




Sources: Indian census report 2011

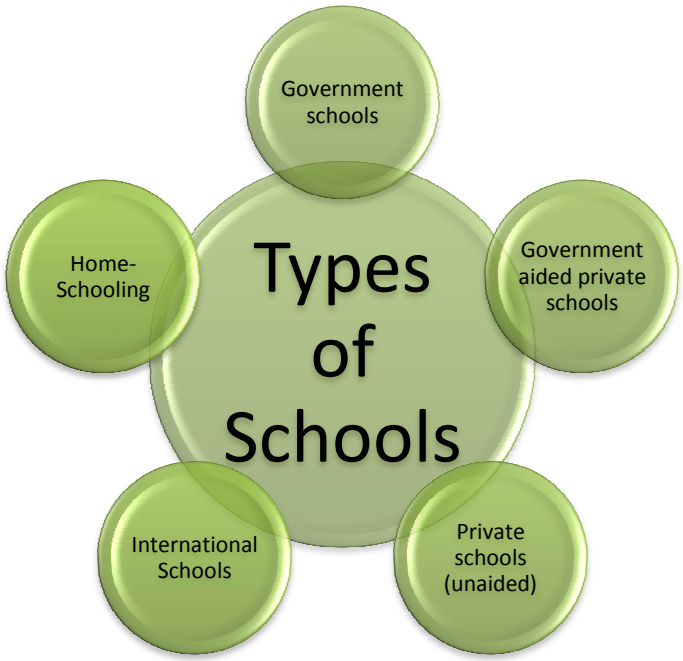
Education sector in India is run by both private as well as government. As a fundamental right in India, education is compulsory and free between age group of 6 to 14.

In India there are different levels of schooling like

- Pre-primary education: it consists of play group, nursery, LKG & UKG. Pre-primary education in India is not a fundamental right.
- Primary education: it consists of classes 1st till 8th standard
- Secondary education: it consists of classes 9th till 12th standard

**Types of school**

- Government school: Majority of the students study in the government schools where poor students can study for free until the age of 14. e.g. kendriya vidhyla ,Jawahar navodya vidhyla and etc.
- Government aided private school: These are charitable trust schools that receive funding from the government. Eg. D.A.V colleges.
- Private school: Private schools are nongovernmental school. They are privately funded schools. Private schools has various extra-curricular activities such as , general knowledge, sports, music and drama.
- International school: these schools adopt international board like IB and etc. these board has a curriculum based on English.
- Home schooling: in Homeschooling student is either taught by parent or by a tutor at home. This is legal in India.



According to the Elementary Education in India State Report Card of 2011-2012, there are 109,189 school state of Rajasthan. In this 77,833 are government schools and 29,766 are private schools and 1,590 unrecognized schools.

Source: Elementary Education in India State Report Cards 2011-2012.

## Review of literature:

1). Zahoor Ahmad lone

Abstract:-

To study the Technology that is used in education sector in rural India.

Objective:-

To study the impact of government's digital India programmed in school across the country.

Conclusion:-

According to research knowledge can be gained from websites, apps, videos, etc. tier 1 and tier 2 cities school have adopted themselves to use new technology to make learning fun and interactive.

2) V s athawar

Abstract:-

To focused on the problems and their remedies of Primary educational system in India.

Objective

Research objective is to study the problems of primary schools of India.

Conclusion:-

This research focuses on improvement done in education system especially at primary level by giving practical knowledge.

3) Thomas m. Philip and antero d. Garcia

Abstract:-

Focussed on the importance of still teaching in I generation and to figure out about new technologies and the centrality of pedagogy.

Objective

The research objective is to find out how to divert the interest of youth in technology to their studies.

Conclusion:-

This research reveals how teacher can utilized the youth's interest in devices or new technology to make studies interesting

4) Sharon lynn Chu yew yee, Francis quek, Alex endert, haeyong chung,

Abstract:-

To study the physicality of technological devices in education and to built a digital experience for learning.

Objective

To study how the devices can be used in Learning at school.

Conclusion:-

Research shows that learning can become sensible and interesting through digital devices.

5) Sergio martin, Gabriel Diaz, elio sancristobal, Rosario Gil, Manuel castor, and Juan peire

Abstract:-

To study the new technology trends in education sector.

Objective

Research focused on new technological trends in education sector through analyzing the new horizon report.

Conclusion:-

The study showed the trend from 2004 till 2014 which technologies were used in education sector and which were more successful and become part of education sector.

6) Richard Halverson, Allan Collins

Abstract:-

This research studies the Information technologies and the future of schooling in the United States.

Objective

Research focused on how new technologies where evolved and even how it penetrate into education system.

Conclusion:-

The study bring out various factor like home schooling, virtual school, learning centre, distance learning and etc through which technology penetrates into education.

7) R.j. odor and s.n. matoti

Abstract:-

Research focuses on the digital age and, the changing roles of lecturers at a University of technology in South Africa.

Objective

Research studies the changing role of lecture due to emerging of new digital.

Conclusion:-

According to research lecture role has changed due to emerging of new digital technology. They should be given proper training so that they can update their teaching methods.

8) Peggy, ottenbreit and leftwich

Abstract:-

Teacher's beliefs and technology integration practices its critical relationship.

Objective

Research objective are study the teachers usage of technology in their classroom.

Conclusion:-

According to the research learning of new technology by teachers is entire depends upon their belief and value.

9) Patricia thibaut, jen Scott cur wood, Lucile carvalho & Alyson Simpson

Abstract:-

To study Moving across physical and online spaces a case study in a Blended primary classroom.

Objective

Research objective is to study set pattern of teaching in schools. And find out whether innovation in teaching makes teaching healthy or not.

Conclusion:-

The research shows that there should be a positive attitude of teacher related to change and accepting new technology. Acceptance to technology required proper technical support.

10) Myungweon choi and Wendy e. A. Ruona

Abstract:-

Individual readiness for organizational change, its implications for Human resource and organizational development.

Objective

Research objective is to study the reason of individual willingness to change in organization.

Conclusion:-

According to Research there should be a proper design through which change is applicable in organization. And that the same time employee is also willing to apply that change.

11) Marlene e. Burckhardt and Daniel j.brass

Abstract:-

Changing patterns and its effects of change in technology on social Network structure and power

Objective

To study the technological change and its effect on organization

Conclusion:-

According to the research who adopts technology in early stage are more benefitted than those who adopt technology in later stage

12) Katherine curry, Sean kinder, Tania benoiton, Jessica Noonan

Abstract:-

School board governance in changing times and its transition policy of governance.

Objective

To study management practice in school and figure out how change in at any level is implemented.

Conclusion:-

Research focused on the implementation of new governance. According to research when there is confusion regarding role proper implementation of governance is not possible.

13). Jyotsna bhatnagar, pawan budhwar, and pallavi srivastava and debi s. Saini

Abstract:-

Research studies organizational change and development in India.

Objective

Research objective is to study the developments in the regarding of organizational Change.

Conclusion:-

According to the research organization focused on building the trust with the employee due to which employee gives High-performance even quality of work is also improved, and which gives better result.

14) Jyh-chong Liang, ching sing chai, ching-ju and chin-chung tsai

Abstract:-

Surveying in-service preschool teachers' technological Pedagogical content knowledge

Objective

To study how technology is improving pre-primary education system.

Conclusion:-

Research show that there are mostly senior teachers which shows resistance to change with regards to technology where as those teacher who are tech savvy are ready to change and gives better result.

15) Julie battilana, mattiagilmartin, metin sengul, anne-claire pache, jeffrey a. Alexander

Abstract:-

Leadership competencies for implementing planned organizational change

Objective

Research objective is to study the Leadership quality of managers and how efficiently the implement planned change.

Conclusion:-

Research shows that task-oriented and person-oriented leadership quality is different from each other. Leadership quality plays an important role in planned change.

16) Joshua d. Desantis

Abstract:-

Exploring the effects of professional development for the interactive whiteboard on teachers' technology self-efficacy

Objective

To study how to train teachers so that teacher can teach new changed environment/ new technologies.

Conclusion:-

The results show that individual capability is most import to accept and modify them in regard with professional development.

17) Ido roll&ruth Wylie

Abstract:-

Evolution and revolution in artificial Intelligence in education

Objective

Research is to study the importance artificial intelligence in field of education.

Conclusion:-

Research focused on the way artificial intelligence is penetrating into classroom. To pace with it teacher should be ready for change.

18) Frances bell

Abstract:-

Theory-informed research and innovation in technology-enabled learning

Objective

Research objective is to study various theories through which new technology is put to an action and can be learned.

Conclusion:-

Study highlights connectivism. It even throws light on various learning through which new technology is being learned and at the same time it can be put to usage.

19) Peggy a. Ertmer and Anne t. Ottenbreit-leftwich

Abstract:-

Teacher technology change: how knowledge, Confidence, beliefs, and culture intersect

Objective

Research objective is to found out various qualities that a teacher required in teaching.

Conclusion:-

They found a new definition of teacher. They also focused on how teacher can implement their ideas efficiently.

20) Elizabeth Wolfe Morrison and Frances j. Milliken

Abstract:-

Organizational silence: a barrier to change and development in a pluralistic world

Objective

To study various forces in organizations that may suppress information of potential problems or issues of employees.

Conclusion:-

This research indicates that top management should not keep silence in regards to value belief, and characteristics of organization. This may create problem for employee to understand the working environment

21) Dennis g. Erwin Andrew n. Garman

Abstract:-

Resistance to organizational change: linking research and Practice

Objective

Research objective is to study why managers resist changing their organization pattern.

Conclusion:-

They have taken into account various dimension why there is resistance to change like cognitive, affective etc.

22) Darrell s. Walker, James r. Lindner, Theresa pesl murphrey, and Kim Dooley

Abstract:-

Learning management system usage Perspectives from university instructors

Objective

Research objective is to study teachers' perception about online teaching and learning.

Conclusion:-

According to the study teacher have positive as well as negative attitude towards LMS. Positive attitude focused on features of online learning whereas negative focused on future of online learning.

23) Bryan j wiener

Abstract:-

A theory of organizational readiness for change

Objective

To study about what problem comes in organization readiness for change.

Conclusion:-

According to research employ's should feel positive toward change so that it is easy to bring change in organization.

24) Susan j. Bennett and Karl a. Maton

Abstract:-

Beyond the 'digital natives' debate: towards a more Nuanced understanding of students' technology Experiences

Objective

Research objective is to study whether teachers are accepting technology or not.

Conclusion:-

In their research they have focused upon two type of generation in which one is technology savvy and other generation is not a tech savvy, and their effects

25) A.collins &r.halverson

Abstract:-

The second educational revolution: rethinking Education in the age of technological

Objective

To study various development taking place in recent era education sector due to technological change.

Conclusion:-

According to the research latest technology brings new opportunity and at the same time it even brings challenges

26) Yanxia she

Abstract:-

The effect of changes and innovation on Educational improvement

Objective

To study about the changes in education system and focus on the students learning.

Conclusion:-

According to the research change in work is a tedious process. He has also focused on teachers development, students learning and school learning. According to him all the above element are needed for school improvement.

27) Esra cakmak, hasan basri gunduz

Abstract:-

Obstacles to change in educational organization and methods to overcome these obstacles: views of principals

Objective

To study why all education institutes are different from each other even though they follow same patter.

Conclusion:-

According to the research physical change is the element which makes each school different from another .this makes student comfortable and at the same time attract student to their school. And for this they require huge funds.

28) Z. Al-Khanjari, Z. Al-Kindi, E. Al-Kindi and N. Kraiem

Abstract:-

Developing Educational Mobile Application Architecture using SOA (service oriented architecture)

Objective

Paper deals with SOA (service oriented architecture) usage in school and college in Oman.

Conclusion:-

According to this research SOA can be develop into software and then can it can be published in cloud.

29) Fahriye Altinay Aksal and Zehra Altinay Gazi

Abstract:-

Examination on ICT integration into Special Education Schools for Developing Countries

Objective

How Information, communication and technology is used in special education schools in turkey

Conclusion:-

Research shows that diffusion of Information, communication and technology (ICT) IN education sector plays an important role. But educational Institute are facing problem in adapting it.

30) Mary K. Tallent-Runnels,Julie A. Thomas, William Y. Lan, Sandi Cooper, Terence C. Ahern, Shana M. Shaw and Xiaoming Liu

Abstract:-

Teaching Courses Online: A Review of the Research

Objective

Research objective is to study the impact of online course.

Conclusion:-

According to research those who have computer knowledge can easily accommodate themselves in online course. Faculty needs constant training for online course.

**RESEARCH GAP:**

Researchers have studied various dimension of new technological change in education sector. But mainly researchers have focused on single aspect of technological change in education industry. All the dimension of new technological change in education sector is not studied in single research; some researchers have focused on either focused on new technology which is developing in education sector or they have studied teacher resistance to change. Mainly research work is done out of India like U.S.A., Europe, African nation. These researches are not applicable in Rajasthan.

**RELEVANCE OF THE STUDY:**

1).To education sector

This research is very important for the education Industry. Education sector will come to know about the various technologies which have developed in education sector and how they can use it in schools. This will even improve their way of teaching. This reach will also help in changing the old pattern of studies and will give a new dimension to education sector.

2).To the educator

This research will help educator in various perspective. Through this research educator will now about new technological development. This will help educator to prepare accordingly.

3).To the Researchers

The research will prove beneficial for researchers as they will come know about the new trends developing in education sector. This research will inform them about the latest technology which is being used in schools.

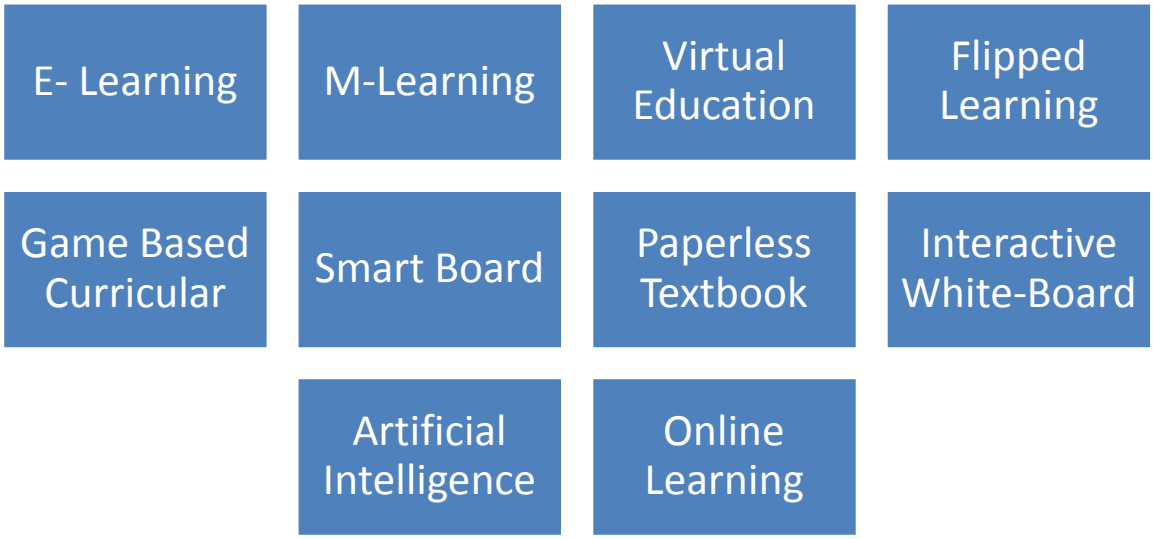
4).To the parents

This research will be helpful to parents as they will come to know about the new technology which is available in school through which kids will be taught. This study will help them to finalize a better school for their kids.

5).To the students

This research will be of a great help to kids as they are the once who are going to be taught from latest technology.

## Variable of the study




## Scope of the Study

This study aims at ascertaining the impact of technological change in education sector in Rajasthan. It also focused on the types of new technology develop or introduce in the education industry, and how easily organization can adapt the new technology.In, the education sector, the quality of teachers are directly related to the technology change. As it entirely depends on how teachers easily adapt to the latest technology and use it in their classes.

New technology needs resources, which is provided by the organizational head. This study will also focus on the resources need for the use the technology.

The teachers, perception will be taken into account with the help of Primary Data (Questionnaire) and Secondary Data (Books, Journals, magazines etc.). Aim of the study is to learn about how technological change in education sector leads to development, the findings from this study would benefit for education sector. This would ultimately help to improve the education scenario in Rajasthan.

**Research Questions**

- What are the determinants of technological changes?
- Which factors determines students' performance?
- What is the teachers perception regarding the effect of technological changes on students performance?

**Research Objectives**

- To study the determinants of technological changes in education sector.
- To analyse the factors determining students' performance.
- To examine the perception of teacher regarding effect of technological changes on students' performance.
- To suggest various improvement in education industry.

**Hypothesis of the Study**

$H0_1$: There is no significant difference between perceptions of teachers regarding effect of technological changes on students' performance.

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**Research Methodology**

Research methodology is a technique which makes use of different research methods to arrive at certain conclusion or to basically find answer to a research problem

**Research Design**

Present study is an empirical analysis of "Technological Change in Education Sector in Rajasthan". This study is based on descriptive and exploratory research. The research design will adopted so as to suit in empirical analysis based on primary data which will be collected through questionnaire.

**Universe of the study**

Universe for this study will be all the teachers of selected schools of Rajasthan state. For present study teachers typically are the people who are teaching in schools of Rajasthan.

**Sample Details:**

Sampling is simply the process of learning about population on the basis of sample drawn from it. There are two types of sampling techniques a) probability sampling b) non probability sampling. The sample details for this study are as follows:

- Sampling Technique: Multi stage Random Sampling
- Sample Frame: Rajasthan ( Jaipur,Udaipur,Chittorgarh )
- Sample Size: sample size has been determined using Morgan table (384)

**Data Collection**

Data collection is the method of collecting and evaluating the information or variables of interest, in an established systematic manner that enables one to answer stated research question, test hypothesis and evaluate outcomes.

In the present study primary data will be collected through questionnaires, discussions and observation. Questionnaire will be filled by the teacher of selected schools in Rajasthan.

Secondary data includes the data which is collected from some previous research work and are relevant in the present study. There are various similar studies which have taken place. A study of literature in books, journals, newspapers, magazines, articles and research paper also assisted to collect relevant data for the study. Internet plays a crucial role to collect the relevant data for the study conducted.

**Classification, Presentation and Analysis of Data**

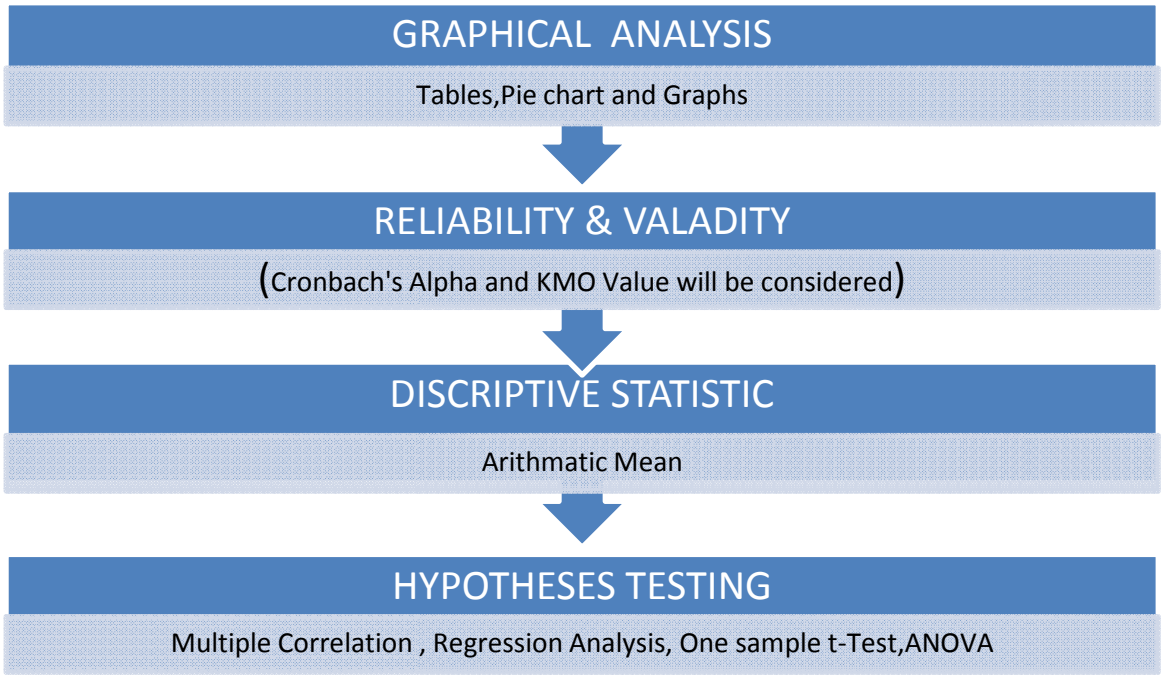
The researcher has to classify the raw data into some purposeful and usable categories. Tabulation is a part of the technical procedure wherein the classified data is put in the form of tables. Analysis work after tabulation is generally based on the computation of various percentage, ratios and coefficient, etc by applying various well defined formulae. In the process of analysis, relationships or differences, supporting or conflicting with original hypothesis should determine with what validity data can be said to indicate conclusion. The data so collected through questionnaire shall be coded and tabulated. Analysis shall be done thereafter and results shall be presented through pie charts and bar graphs. Suitable interpretation shall be made.

**Tools for Testing Hypothesis:**

Statistics make our observation useful, precise and convenient. In order to analyse the data and test hypothesis besides general descriptive statistics are used.

The concept of reliability occupies a central place in psychological testing. Reliability and validity is the primary requisite of any measuring instrument.

To analyse the data first step is to apply the reliability test to know whether data is appropriate or not and validity test to know whether sample is adequate or not.



## Scheme of Chapterization

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